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Five hundred and sixty-eighth Meeting.

May 8, 1866. — MONTHLY MEETING.

The PRESIDENT in the chair.

The Corresponding Secretary read letters relative to exchanges; also letters from the Reverend Barnas Sears, President of Brown University, and from Dr. Joseph Dalton Hooker, Director of the Royal Gardens, Kew, in acknowledgment of their election into the Academy.

Professor Lovering reported, from the Committee of Publication, that Volume VI. of the Proceedings had been completed and was ready for distribution.

On the motion of Professor Lovering it was *voted*, That the sum of one hundred dollars bequeathed to the Academy by the late Jonathan P. Hall, for the publication of its memoirs and transactions, be appropriated to the publication of Mr. Hall's meteorological observations.

Dr. Bigelow reported, from the committee to consider the purchase or lease of rooms for the use of the Academy, that no further action had been had on the subject.

On the motion of Mr. Bowditch the subject of this committee's previous report was indefinitely postponed, and the committee was discharged.

The whole subject of the accommodation of the Academy was then referred to a new committee, consisting of Dr. Bigelow, the Treasurer, Mr. Bowditch, Professor Cooke, Professor Eliot, and Mr. J. A. Lowell.

Five hundred and sixty-ninth Meeting.

May 29, 1866. — ANNUAL MEETING.

The PRESIDENT in the chair.

The Treasurer presented his report, which was accepted and referred to the Auditing Committee.

The Treasurer reported, from the committee to consider the subject of a building for the accommodation of the Academy,

that negotiations were pending for the further lease of the Hall now occupied by the Academy. The subject was recommended.

The Corresponding Secretary read, in abstract, the following

Report of the Council.

Through a wholly unprecedented mortality, the Academy has lost during the past year seventeen members, among them its Vice-President and its Treasurer. Six of our deceased brethren were Resident Fellows, three were Associates, and eight Foreign Honorary Members.

Of the Resident Fellows thus removed, five were of the Third Class, comprising the honored names of Sparks, Beck, Livermore, Worcester, and Fitzpatrick, and one, Mr. J. Patten Hall, was of the Second Class.

JARED SPARKS was born at Willington, Connecticut, in 1789. His boyhood was passed in the then usual pursuits, and with no more than the then wonted opportunities and privileges of boys in the country. He, however, early manifested a strong inclination and capacity for mathematical study, and, with such aid as he could derive from stray books on navigation that fell in his way, he attained to the calculation of eclipses and other astronomical phenomena, and in one instance furnished the *mutanda* for the year's almanac. He learned a carpenter's trade, and connected with it the profession of a district schoolmaster. With no distinct purpose other than that of qualifying himself for the successful and honorable discharge of this last-named calling during the winter months, he sought the tuition of his pastor, Rev. Mr. Loomis, (afterward President of Shurtleff College, Illinois, and still living,) and under his direction commenced a course of classical study, undertaking to pay Mr. Loomis by shingling his barn. One day, when he was at work on the barn, his teacher asked him to come into the house, and construe a passage in Virgil in the hearing of Rev. Mr. Abbot, then minister of Coventry. Mr. Abbot perceived at once the rich promise that there was in the young carpenter, and wrote to his brother-in-law, the principal of Exeter Academy, to solicit a scholarship for him. The application was successful, and young Sparks walked to Exeter, more than a hundred miles, in three days, Mr. Abbot (who with his wife was meditating a visit to his brother and sister) conveying his trunk behind his own chaise.

After a novitiate, in which he showed masterly power of acquisition,

he entered Harvard College in 1811. Though his straitened circumstances made long absences for school-keeping necessary, and his health at one time was greatly impaired, he yet maintained a high college rank, and, in mathematics especially, was regarded as at the head of his class. After graduating in 1815, by invitation of the late Stephen Higginson, Esq., he taught a private school at Lancaster, Massachusetts, in the parish of Rev. Dr. Thayer, with whom he commenced the study of theology while engaged in the instruction of his sons. About this time he thought seriously of devoting himself to the scientific exploration of unknown regions. Mungo Park's Travels had interested him peculiarly in Africa, and arrangements were nearly completed for his entering the service of an English society for African research. The negotiation failed through no backwardness on his part, and from causes which he never fully understood.

In 1817 he was recalled to Cambridge, as Tutor in Mathematics and Natural Philosophy, and during the two years for which he held this appointment he completed his preparation for the ministry. In 1819 he was ordained pastor of a new Unitarian Church in Baltimore. Here he found himself unwillingly drawn into two separate controversies,—one with Rev. Mr. Wyatt, of Baltimore, on "The Ministry, Ritual, and Doctrine of the Protestant Episcopal Church"; the other with Rev. Dr. Miller, of Princeton, on the "Comparative Moral Tendency of Trinitarian and Unitarian Doctrines." The letters written in these controversies respectively were published in separate volumes, which, while they are monuments of their author's extensive learning and marked polemic ability, are admirable for their genial temper, their uniform courtesy, and their entire freedom from bitterness and invective. It is worthy of emphatic notice, that both of the divines who were then his earnest antagonists became his warm personal friends. He at the same time edited a monthly theological magazine, for which he furnished the greater part of the materials. He also commenced the editorship of a Collection of Theological Essays and Tracts by various authors, with biographical and critical notices by his own hand,—a work undoubtedly suggested by that well-known series of tracts bearing the name of Bishop Watson. This work was continued through six volumes. During a portion of his residence in Baltimore he served as Chaplain to the House of Representatives in Congress, at a period when that office was not, as now, scrambled for by greedy seekers, but conferred unsought on the best man.

In 1823 he resigned his charge at Baltimore on account of enfeebled health. He then removed to Boston, and became proprietor and editor of the *North American Review*. During the seven years for which this work was entirely under his control, it reached a degree of prosperity and an extended circulation which it has never equalled at any subsequent time. In 1828 he published a "Life of John Ledyard, the American Traveller."

Shortly after his removal from Baltimore he determined to attempt the publication of *Washington's Life and Writings*. In 1828 he spent a year in Europe, employed principally in copying documents illustrative of the history of the American Revolution in the public archives of England and France. His great work appeared in twelve volumes, in 1834-37. During its preparation, and chiefly from materials accumulated in its furtherance, he published the "Life and Correspondence of Gouverneur Morris," in three volumes, and the "Diplomatic Correspondence of the American Revolution," in twelve volumes. The *American Almanac*, from the outset a work of national interest and importance, was also started by him, and he edited its first volume, — that for 1830. Simultaneously with the appearance of the first volume of his *Washington*, he commenced the publication of his "Library of American Biography," which was continued through twenty-five volumes, several of the memoirs having been written by himself, and all the rest written by authors of his own procuring, and published under his immediate supervision. In 1840 he completed, in ten volumes, his *Life and Writings of Franklin*. In 1854 he published four volumes of the more important *Correspondence of the American Revolution*. In these labors he easily takes the lead of the historians of the United States. No other man has approached him either in the amount or the value of his contributions. He has done more, perhaps, than all others to make it possible that a history of the American Revolution should be written. His works bear abundant tokens of his conscientious faithfulness, his judiciousness as an historical critic, his freedom from prejudice and partiality, his perspicuity, grace, and dignity as a writer, his sound judgment as an editor, and his skill in availing himself of the co-operation of others. It is believed that no one has ever covered so much ground with so few assailable points; and the two or three instances in which he has been called in question have only served to bring into clearer view the patient industry, profound discretion, and

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single-hearted rectitude with which he had managed the many difficult subjects that came under his treatment.

From 1839 to 1849 he was Professor of History in Harvard College, and he was its President from 1849 to 1852. Since retiring from the Presidency he has written little. It was his intention to write an extended history of the United States, and he regarded his previous labors as but a preparation for this. But a lameness of the right arm precluded the free use of the pen, and the conscious difficulty of so changing all his habits of study, note-taking, and composition as to conform himself to the use of an amanuensis postponed the commencement of this plan till it was too late to carry it into execution. He continued to live at Cambridge, surrounded by many of his early friends, and by many more by whom he was equally revered and loved. On the evening of March 6th, 1866, he was at a social party. On his return home he was seized with chill, and on the next day pneumonia set in, at his age with little or no hope of recovery. His sufferings were probably not severe; if they were, he bore them in perfect serenity, and remained cheerful and self-collected till a comatose condition ensued but a few hours before his death. He died on the 14th of March.

Mr. Sparks did nothing that was not done well, few things that were not done superlatively well. His reputation rests not merely on his capacity as an editor and compiler: had he written nothing else, his biographies alone would have seemed work and glory enough for one man; and these, in the appreciation of their subjects, in the grouping of persons and incidents, in the delineation of character, and in the tracing of relations and sequences among events, give ample evidence of a keen insight, an analytic faculty, and a constructive power, which the literary world would have better appreciated, had not his more important biographies, those of Washington and Franklin, been in form subsidiary to the publication of their works.

In his private character no ordinary terms can convey the measure in which he was honored and loved, most by those who knew him best. He can have had no enemies; and no man can have made more or warmer friends. In meekness, modesty, kindness, generosity, a winning politeness that went to the heart because it came from the heart, the most tender concern for the well-being and happiness of others, constant watchfulness for the opportunities of doing good, charity that

dropped its benefactions in look, word, and deed all along his life-path, — in these and other like traits he realized to many, with more fulness than they can readily recall it elsewhere, the ideal of a Christian gentleman. And it was his happiness and ours that he died, though full of years, before the infirmities of old age had impaired either his capacity of enjoyment, or — what would have been to him the same thing — the power of active beneficence. “*Felix, non vitæ tantum claritate, sed etiam opportunitate mortis.*”

CHARLES BECK, late Vice-President of the Academy, died in Cambridge, March 19, 1866, after an illness of only three hours. He was the son of a merchant, and was born at Heidelberg on the 19th of August, 1798. His mother afterwards marrying for her second husband Professor De Wette, the family moved to Berlin in the year 1810, when De Wette, then about thirty years old, and already widely known as a theologian, was called to a chair in the new University.

The boyhood and early youth of Dr. Beck were passed partly in Carlsruhe and partly in Berlin, in which latter place he enjoyed unusual advantages. He was a pupil in the Werder Gymnasium, where, among other instructors, he had the elder Zumpt : his step-father's literary and social position gave him an opportunity of seeing and hearing the gifted men in whom Berlin then abounded ; and the events of the War of Liberation, going on before his eyes, awakened in him a spirit of patriotic fervor which never died out, and which made his example and influence of great worth in after days to his adopted country. Indeed, the chances of war made his home at times unsafe for women and children : on one occasion it was thought best for his mother to leave town, and as she travelled with her son they listened all day to the roar of Napoleon's guns. The day after the battle of Grossbeeren, not far from Berlin, August 23, 1813, he visited the battle-field, and was vividly impressed with the dreadful reality of the contest in which his country was engaged. He was one of the patriotic pupils in the Gymnastic School of Jahn, established near Berlin in 1811 : he belonged also to the Band of Virtue, an association which embraced the flower of the German youth, and to the Burschenschaft.

The lessons of this period were not lost upon young Beck. His well-knit frame was made strong and supple by the manly exercises for which he retained a love all his life. His mind, naturally of a hardy mould, acquired great force and a set determination. With the shrewdest practical judgment, with the soundest common sense, he was always ready to sacrifice everything to his ideas of right.

During his career as a student at the University an incident occurred which gave a direction to his whole life. His stepfather, Professor De Wette, who had enjoyed the hospitalities of the parents of the student Sand, the assassin of Kotzebue, wrote a letter of condolence to the mother of the unhappy young man. Although the letter, far from justifying the deed, merely pointed out general sources of Christian consolation, the Prussian government was not inclined to pass it by unnoticed: on the 28th of August, 1819, Professor De Wette was asked if he acknowledged the authorship of the letter; two days after he was summarily dismissed from the University. After an interval of three years he was called to the University of Basle as Professor of Theology. His step-son meantime having finished his theological and philosophical studies at the University of Berlin, and after passing his examination as candidate of theology, having been ordained as a clergyman in Heidelberg (July 7, 1822), left Germany and joined his step-father at Basle in the same year, and spent the next two years as a successful Teacher of the Latin Language and Literature in the Pedagogium at Basle. During this time he took the degree of Doctor of Philosophy at Tübingen (September 18, 1823).

The state of affairs in Germany and Switzerland convinced Dr. Beck that there was no field in either of these countries for one of his sentiments. He left Switzerland accordingly in the year 1824, and came to this country with his valued friend, Dr. Follen. They landed in New York, December 24th. The testimonials and letters brought with him insured him a favorable reception at once. As an evidence that America was henceforth to be his permanent home, Dr. Beck took the preliminary steps to being naturalized in Philadelphia, a month after he landed: he was naturalized in Northampton, March, 1830. The first five years of his American life were passed in Northampton, in the well-known Round Hill School of Messrs. Cogswell and Bancroft. At this school Gymnastics were taught for the first time in America. In 1830, he on the Hudson opened a school of his own for boys. Two years after, in the beginning of 1832, he was called to Harvard College as University Professor of Latin, and remained in that office till 1850. After his resignation he was occupied with his own private studies, and with many trusts of a public character, till his death. He was twice a member of the Legislature, Vice-President of the Oriental Society, President of a Savings Bank, and Director of another Bank, and a valued member of many boards and commissions in his own town.

Dr. Beck visited Europe three times ; once in 1847, again in 1857, and the last time in 1858. The last journey was undertaken principally for a literary purpose.

In 1856 he published in the *Memoirs of the Academy* a most important contribution, on the Age of Petronius Arbiter, in which he takes ground against the hasty conclusions of Niebuhr and Studer, and exhausts the treasures of antiquity and language to prove that this puzzling fiction must have been written either in the reign of Augustus or Tiberius. Finding that the text of Petronius was in a very untrustworthy state, he resolved to collate the manuscripts himself. On his last journey to Europe, in 1858 and 1859, he compared twenty of the twenty-one existing manuscripts of Petronius. The results of these studies he published in a beautiful quarto volume, printed in Cambridge, 1863, at his own expense, and distributed gratuitously. It is not hazardous to say that the manuscripts of no author have ever been collated with a more minute and conscientious accuracy than those of Petronius. It was hoped by Dr. Beck's friends that he might feel inclined to edit Petronius, a task for which he was so peculiarly qualified. He was prevented from doing this partly by occupations which he considered more important, and partly by the publication of a new Petronius in Germany. Beside the two works alluded to, he published a third bearing the name of Petronius, an inedited lexical fragment discovered by him and printed in Vol. VIII. of the *Memoirs of the Academy*. In former years he had published a number of works ; among which were a *Treatise on Gymnastics*, Northampton, 1828 ; the *Medea of Seneca*, 1834 ; *Cicero's Brutus*, 1837, and in an entirely new edition, 1853 ; *Latin Syntax*, 1838, and a second edition, 1844 ; the *Hercules Furens of Seneca*, 1845 ; *Munk's Metres of the Greeks and Romans*, (translated with Professor Felton,) 1844 ; and beside this he had contributed to literary journals.

The same conscientious fidelity which marks his writings pervaded all he did. The rule of his life was to do his duty as he understood it, and the whole of his duty, without fear or favor, and to do all he could for his fellow-men. As an instructor he was rigorous and exacting, but not more so toward his pupils than toward himself. In the distribution of his means he showed judgment as well as generosity. His contributions to the various public calls that have been so frequent, of late years particularly, have been munificent. But his private charities have undoubtedly been greater still. No deserving foreigner ever appealed to

him for aid in vain ; and it was his habit to seek out intelligent young American mechanics of good character, and lend them money to begin their trade. As a citizen he was a model man. He took a warm interest in all public matters, national and state ; he was more thoroughly informed about municipal affairs than most born Americans. From the first outbreak of the war he did all he could to help the national cause. He thought that every good citizen should serve his country as far as he could in person, and showed his sincerity by joining a military organization and drilling with the zeal of the youngest recruit. He went with his company into camp, where he was eager to do all the drudgery of a common soldier ; and it was a sore trial to him that when the company went into service he was rejected on account of his age. The universal respect in which his lofty integrity and simplicity were held was touchingly attested at his death, which was mourned by the citizens as a great public calamity.

MR. GEORGE LIVERMORE died at his residence on Dana Hill, in Cambridge, on Wednesday, August 30, 1865, of a disease of the veins, followed by paralysis.

He was a son of Nathaniel and Elizabeth (Gleason) Livermore, and was born in Cambridge, July 10, 1809, being therefore at the time of his decease in his fifty-seventh year. He had been shortly before chosen Treasurer of the Academy, glad, as he said, — with that pleasing modesty which was one of the most winning traits of his attractive character, — to prove his interest and good-will as a Fellow, in an office which did not require the high scientific qualities displayed by his brethren. To all his associates in literary pursuits, and to all who met him in the walks of trade and business, he was known (as only in the more private circles of affection he could be fully appreciated) as a man of rare excellence of native disposition, of lofty integrity, ardent patriotism, and fulness and depth of Christian principle and culture. There was a charm in his gentle bearing, and a grace in his speech and manners which made him a most delightful companion, and impressed all who were brought into contact with him. There was something singularly engaging in his refined simplicity and quietness of spirit, and in the almost feminine delicacy of his nature. Indeed, perhaps even his nearest friends would not have fully known what energy and almost passionate earnestness were latent in that nature, had they not been called out by the perils and struggles of his country during the last four years of his life. An all-absorbing patriotism stirred him to the

intensest interest in the war against the rebellion. The delicacy and feebleness of his body alone prevented his becoming a soldier, but his pen and purse, his zeal and practical effort, were devotedly given to filling the ranks of our army, promoting enlistments, gathering recruits, providing for the welfare and comfort of soldiers on the march, in the camp, on the battle-field and in the hospital, and even to furnishing them with copies of a reprint of the famous "Soldiers' Bible" of the Cromwellian troopers. It was with a view of meeting one of the most exciting of the issues which the war incidentally opened, that he was led to the investigations that resulted in the most elaborate production of his pen. His "Historical Research respecting the Opinions of the Founders of the Republic on Negroes as Slaves, as Citizens, and as Soldiers," an epitome of which he read before the Massachusetts Historical Society, in August, 1862, is one of the most thorough, comprehensive, and exhaustive productions to be found in our historical literature. After his searching investigations had made him master of the whole field covered by his subject, he published the result, at his own cost, in very many forms, some of them elegant and expensive, and distributed them far and wide. Senator Sumner asserts, as of his own personal knowledge, that President Lincoln made use of this valuable "Research," while preparing his own final Proclamation of Emancipation.

Mr. Livermore had in his early years only those means of education which Massachusetts offers to all her youth; and as soon as his school training was completed, he entered upon the mercantile and business occupations which he pursued for the remainder of his life. In these he was so far successful as to possess himself of ample means for gratifying his fine literary taste and his strong desire for studious culture. The library which he gathered, at great cost, was in itself a remarkable collection, and indicative of the qualities of his mind and character. A visit to Europe had afforded him facilities which he diligently and wisely improved. Without yielding to the mere fancies of the bibliomaniac, he availed himself of them for uses of wisdom. His collection of Bibles, among which was one that had belonged to Melancthon, and of works illustrating the Scriptures by art, was unique and extremely rich. He was a diligent student of American history, seeking for rare tracts and original materials. He had a conscience for accuracy and thoroughness in his researches, and several of the pieces which he published prove a very wide and curious knowledge,

obtained by him through processes which justified his challenging the deliberate judgments and statements of professional scholars and historians. He made contributions to the *North American Review* and to the *Christian Examiner*. For fifty years a pupil or a teacher in a Sunday school, he was also an efficient worker in the cause of education in his native place. Harvard College, of whose Library Committee he was a valuable member, gave him the honorary degree of A. M. in 1850. Mr. Livermore was a Trustee of the State Library and of the Boston Athenæum, a member of the American Antiquarian Society and of the Massachusetts Historical Society.

JOSEPH EMERSON WORCESTER died in Cambridge, after a brief illness, October 21, 1865. He was born in Bedford, New Hampshire, August 24, 1784, the second in a family of fifteen children. In 1794 he removed to Hollis, N. H., where he resided till he became of age, assisting his father in labor on the farm. During this period his opportunities for education were limited, but he early manifested an ardent thirst for knowledge; and it is related that after the toils of the day he often sat up till midnight or later in company with his elder brother, Jesse, reading Rollin's *Ancient History*, Josephus, and similar works, by the light of pitch-pine knots. At the age of twenty-one, though entirely dependent on his own exertions for support, he resolved, if possible, to obtain a liberal education, and began his preparation for college at Phillips Academy in Andover. He afterwards pursued his studies for this purpose at Boscawen and Salisbury, N. H., and especially at Salem, Mass., where he spent two years or more in teaching. In 1809 he entered the Sophomore Class in Yale College, and was graduated in 1811. After leaving college, he was again employed in teaching for several years in Salem, where he commenced the preparation of his first work, a "*Geographical Dictionary or Universal Gazetteer, Ancient and Modern*," which was published at Andover in 1817, in 2 vols. 8vo. (A new edition, greatly enlarged and improved, appeared in 1823.) This was followed by a "*Gazetteer of the United States*," published in 1818. In 1819, for the sake of greater literary advantages, he removed to Cambridge, which thenceforth became his permanent residence.

The same year he published his "*Elements of Geography, Ancient and Modern*," a work far superior to the previous text-books on the subject, and which passed through several stereotype editions. This was succeeded by his "*Sketches of the Earth and its Inhab-*

itants," in 2 vols., 12mo, Boston, 1823. His "Elements of History, Ancient and Modern," accompanied by an "Historical Atlas," admirably adapted to its purpose, was first published in 1826, and has probably been more extensively used in our schools than any similar manual. It has been repeatedly stereotyped. In 1825 Mr. Worcester communicated to the American Academy, "Remarks on Longevity, and the Expectation of Life in the United States, relating more particularly to the State of New Hampshire, with some Comparative Views in relation to Foreign Countries," which was published in Vol. I. of the Second Series of our Memoirs. His first production in the field of English lexicography, which he afterwards so successfully cultivated, was an edition of "Johnson's Dictionary as improved by Todd, and abridged by Chalmers, with Walker's Pronouncing Dictionary combined," which was published in Boston in 1828. In 1829 he was induced by Mr. Converse, the publisher of Webster's large American Dictionary, to prepare an abridgment of that work. His own "Comprehensive Pronouncing and Explanatory English Dictionary," which he had commenced before undertaking the abridgment of Webster, appeared in 1830. Its extensive list of words of various orthography, distinguishing the form commended by the best usage, and, in the case of words differently pronounced by orthoepists, its exhibition of the principal authorities for the pronunciation, were novel features of the work, which greatly contributed to its popularity. Its publication gave occasion to an ill-considered charge of plagiarism on the part of Dr. Webster, who enumerated one hundred and twenty-one words which he regarded as pirated from his Dictionary. Mr. Worcester's reply must be regarded as completely triumphant, and, as a specimen of good writing, has not often been surpassed in literary controversy.

Near the close of the year 1831, Mr. Worcester made a voyage to Europe, where he spent about seven months, visiting many of the chief places of interest in England, Scotland, France, Holland, and Germany, and furnishing himself with the literary apparatus required for more extensive researches in his chosen fields of labor. In the year 1831 he assumed the editorship of the "American Almanac," which he conducted for eleven years with eminent success. His "Universal and Critical Dictionary of the English Language," the fruit of many years of labor and study, appeared in 1846, and gave occasion to the famous "War of the Dictionaries," waged with so much ferocity by the rival publishers. No person was ever less disposed than Dr. Worcester to

disparage the merit of a fellow-laborer, and the spirit of the whole controversy was utterly uncongenial with his feelings. It became necessary for him, however, to expose a gross literary fraud, when the work just referred to was issued by an unscrupulous London publisher with a garbled Preface, and the utterly false title, "A Universal, Critical, and Pronouncing Dictionary of the English Language, *compiled from the Materials of Noah Webster, LL. D.*, by Joseph E. Worcester." A pamphlet setting forth the facts in the case was published by him in 1853, and enlarged with a third Appendix in 1854.

In 1847 - 49 Dr. Worcester experienced one of the severest trials that can befall a scholar, in the threatened loss of sight, and the actual inability to use his eyes for reading, or hardly any other purpose, for about two years. During this period he had three operations performed on his right eye for cataract, and two on his left, the last of which, happily, was entirely successful. This great affliction was borne throughout without a murmur, in the spirit of true Christian resignation and trust.

In 1847 Dr. Worcester published an enlarged and improved edition of his Comprehensive Dictionary, which contained, among other additions, a "Vocabulary of Modern Geographical Names," with their pronunciation. This volume was still further improved and enlarged in 1849; and in 1855 it appeared with the title, "A Pronouncing, Explanatory, and Synonymous Dictionary of the English Language"; the discrimination of synonymes being an important and distinguishing feature of the work. It also contained a list of the Christian Names of Men and Women, with their etymological signification, introduced for the first time in an English dictionary.

The crowning literary labor, however, of Dr. Worcester's life was his "Dictionary of the English Language," published in 1860, in a large and beautifully printed quarto volume of one thousand eight hundred and fifty-four pages. In the preparation of this work, the author was aided by a number of able and industrious collaborators, and in the explanation of terms of a technical character he enjoyed the assistance of men eminent in various departments of literature and science, including some of the most honored members of the American Academy. The various appendixes of Classical, Scripture, and Geographical Names, and of Names of Distinguished Persons of Modern Times, were all elaborated anew, and made, it is believed, far more complete and accurate than in any preceding work. It will not be deemed invidious to

say, that, at the time of its publication, notwithstanding the great merits of its chief competitor, the general verdict of scholars at home and abroad placed it at the head of English lexicographical literature ; and if it has since been equalled or surpassed, we may indulge a pardonable pride in the fact, that the only dictionary of the English language which even now can pretend to rival it in fulness and accuracy is also the product of American enterprise, industry, and scholarship.

All the works of Dr. Worcester give evidence of sound judgment and good taste, combined with indefatigable industry and a conscientious solicitude for accuracy in the statement of facts. The tendency of his mind was practical rather than speculative. As a lexicographer, he did not undertake to reform long-established anomalies in the English language : his aim was rather to preserve it from corruption ; and his works have certainly contributed much to that end. In respect both to orthography and pronunciation, he took great pains to ascertain the best usage ; and perhaps there is no lexicographer whose judgment respecting these matters in doubtful cases deserves higher consideration. In the mazy paths of etymology, if he cannot claim the merit of an original explorer, his good sense preserved him from the wild aberrations and extravagances into which many have been misled. His definitions, for neatness and precision, will not suffer, perhaps, in comparison with those of any of his predecessors ; but it must be confessed that all our English dictionaries too often mistake a special application of a word for an essential change of meaning, and hide its precise signification in a cloud of indiscriminated synonymes.

In 1827 Mr. Worcester was elected a member of the Massachusetts Historical Society ; and he was an Honorary Corresponding Member of the Royal Geographical Society of London. He was also one of the earliest members of the American Oriental Society. In 1847 he received the degree of Doctor of Laws from Brown University, and afterwards from Dartmouth College.

Though somewhat cautious and reserved in the expression of his feelings, Dr. Worcester was a man of strong affections, and great benevolence of character. He delighted especially to render aid to those who, like himself in early life, were struggling with difficulties in the pursuit of knowledge ; and his sympathy for the poor and unfortunate was warm and active. During the late contest for the maintenance of the Union, and of the principles which lie at the foundation of our Republic, he was thoroughly patriotic. He had no children to conse-

crate to the cause, but nine of his nephews served in the United States Army, whom he encouraged by constant correspondence ; and the various charities of the war met from him a ready and liberal response to their calls. Closing his earthly career at the advanced age of eighty-one years, he has left behind him the memory of a useful and spotless life ; and by his literary labors he has not only won a title to the gratitude and respect of his countrymen, but of all who speak and write the English language.

The Right Rev. JOHN BERNARD FITZPATRICK was the son of Irish parents, of humble circumstances but earnest piety, who came over to America in 1805. Born in Boston on the 1st of November, 1812, he owed his early education to the common schools of his native city. He was a pupil successively of the Adams and Boylston Schools, and afterwards for three years of the Boston Latin School. He seems to have been a most exemplary and diligent scholar, having twice received the Franklin medal, besides obtaining several other prizes for excellence in special departments of study. From his earliest youth he was the subject of deep religious impressions, and found his highest satisfaction in the teachings and services of the Church to which his parents belonged. To that church and its ministry he soon resolved to devote his life, and with this view he broke off from his secular studies, and left his home at seventeen years of age to enter the Roman Catholic College at Montreal. After four years of faithful study in that institution, he greatly distinguished himself by the part which he took in a public disputation in four languages, — Latin, Greek, French, and English, — and was immediately thereafter appointed Professor of Rhetoric and Belles-Lettres. In this capacity he spent four years more at Montreal, and thence repaired for the completion of his theological preparation to the great Seminary of St. Sulpice in France. He was connected with this seminary for nearly three years, and was not less devoted or less distinguished as a scholar at Paris than he had been at Boston or Montreal. The time had now arrived for him to enter on the practical duties of the ministry. In May, 1839, he received the order of sub-deacon. In December of the same year he was ordained a deacon, and in the following year was promoted to the priesthood. Recrossing the Atlantic in November, 1840, he returned at once to his native city, where for a year or two he was occupied with pastoral duties at the Cathedral or at St. Mary's Church. During another year or two, he held the pastorate of East Cambridge. But higher duties soon awaited him,

and in 1844, at thirty-two years of age, he received the appointment of Coadjutor to the Bishop of Boston,—the health of Bishop Fenwick requiring him to relinquish in part the care of the Diocese. He was consecrated Coadjutor in March, 1844, and on the death of Bishop Fenwick, a little more than two years afterwards, he succeeded to the full duties and dignities of Roman Catholic Bishop of Boston.

It was no light responsibility for any one to succeed to an office which had been held before only by the excellent Fenwick and the sainted Cheverus. Of the latter, at least, it may safely be said, that no ecclesiastic of any sect or denomination who ever lived in Boston has left behind him a more enviable memory. The charm of his conversation, the humility of his manners, the simplicity of his life, the untiring benevolence and beneficence which he exhibited towards the suffering poor, endeared him to the whole community; and his departure for France in 1823, to become the Bishop of Montauban, and afterwards Archbishop of Bordeaux and a Cardinal, while all acknowledged the justice of the promotion, was the subject of deep and wide-spread regret. It is enough to say of Bishop Fitzpatrick, that he proved a worthy successor to the eminent prelates who preceded him. He was a man of an excellent spirit, of a genial temper, of peculiar tact and sterling common-sense, of rare accomplishments, of a noble presence; without anything of presumption or ostentation, yet of striking dignity; shrinking from all display, except such as was inseparable from the ceremonies of the Church over which he presided, and devoting his whole time and thoughts and strength to the care of his diocese. He had, indeed, too little self-appreciation for his own worldly fame, and has left no record of his learning and acquirements except in the memory of those who knew him. He seldom delivered formal discourses. He engaged in no doctrinal controversies. He wrote no theological essays. He committed absolutely nothing to the press. Not a single pamphlet, hardly a single printed page, is left to preserve his name in our libraries. But his memory will be cherished in the hearts of the whole religious denomination to which he belonged, and in those of a large circle of personal friends of all denominations.

His devoted labors in the Episcopacy for twenty years proved too much for his strength and health. He sought relief and restoration in foreign travel, but returned after an absence of two or three years without permanent benefit, and died in Boston on the 13th of February 1866, universally respected and lamented.

JONATHAN PATTEN HALL was born in Medford, Massachusetts, July 22, 1799, and died in Boston on March 6, 1866. He was fitted by Daniel Staniford for Harvard College, where he was graduated in 1816. His own inclination was for a student's life, particularly for the profession of medicine; but he yielded to the wishes of his father, and was engaged with him in business as a druggist for twenty-three years. Mr. Hall was interested in Chemistry and also in Botany. In 1821 he began to keep a regular journal of the atmospheric temperature, recording his observations three times a day. He continued this journal to within a few days of his death. The last observation recorded by himself was on November 13, 1865, but the work was done under his direction until March 1, 1866. On May 28, 1850, Mr. Hall was elected a Fellow of the Academy, and on the 14th of August of the same year he was appointed Meteorological Observer of the Academy. In 1858 he published his meteorological observations in the *Memoirs of the Academy* (Vol. VI. p. 229), under the following title: "Register of the Thermometer for Thirty-six Years, from 1821 to 1856, to which is added the Quantity of Rain falling in Boston, Mass., for Thirty-four Years, from 1823 to 1856." Mr. Hall was singularly shy and retiring in his nature, but in his unassuming way he served faithfully the interests of science. Harvard College and the American Academy of Arts and Sciences were equally remembered by him in his modest bequests; the former receiving one hundred dollars for its Library, and the latter an equal sum for its Publication Fund.

From our list of Associate Fellows we have to lament the loss of the Rev. Dr. Wayland, Bishop Alonzo Potter, and Colonel James D. Graham, — the two former distinguished for their learning and eloquence as divines, and for their zealous and fruitful labors in behalf of education, — the latter well known for his various services as an officer of the Corps of our National Engineers.

FRANCIS WAYLAND, the son of Rev. Francis and Mary Wayland (the father a Baptist clergyman of worth and reputation), was born in the city of New York on the 11th of March, 1796. He was graduated at Union College in 1813. He then made choice of the medical profession, in which he had completed a three years' course of study, when, deeming himself called to a more sacred field of service, he, in 1816, became a member of the Andover Theological Seminary. Here he remained but a year, and then accepted a tutorship in Union College, which he held for four years. In 1821 he became pastor of the First Baptist

Church in Boston, and during a ministry of only five years rose to as high a reputation as any American preacher has ever attained. It was at this time that he delivered, at an Andover anniversary, his celebrated Sermon "On the Moral Dignity of the Missionary Enterprise." It is said that the greatness of this magnificent discourse was hardly suspected even by the most appreciative of its hearers, so little was there then in the preacher's voice and manner to constrain attention; but it had no sooner issued from the press than it passed into rapid and extensive circulation, was republished in many successive editions on both sides of the Atlantic. The brilliant reputation thus won concurred with his previous success as a member of the Board of Instruction to procure for him an invitation to the Professorship of Mathematics and Natural Philosophy in his *Alma Mater*. Hardly had he entered on the duties of this office, when he was chosen President of Brown University. He promptly accepted the trust, and remained at the head of that institution for more than twenty-eight years. Though he resigned his presidency on account of impaired health, the few years that succeeded his resignation were a season of undiminished mental vigor and industry. During a temporary engagement as acting pastor of a church in Providence, he preached with greater eloquence and efficiency than at any previous time, and the printed sermons of this period transcend in vigor of thought, fervor of religious feeling, and the higher qualities of style and diction, all his earlier writings, the one master work excepted. He died in consequence of an attack of paralysis, on the 30th of September, 1865.

Dr. Wayland's publications have been numerous. Besides many sermons, lectures, and addresses, issued singly and in volumes, he was the author of valuable treatises for school and college use, on Political Economy, Mental Philosophy, and Moral Philosophy; the last of which has had a very extended circulation, and is believed to be more generally employed as a text-book in our colleges than any other manual in that department.

Dr. Wayland seemed born to command, and could not but have been a controlling mind in whatever sphere of life he might have chosen. Strong in his convictions, with not a little native impetuosity, which strenuous self-discipline directed rather than repressed, and with an energizing sense of right and duty in whatever he undertook, he usually succeeded not only in having his own way, but in drawing to it the current of surrounding opinion and feeling. In the administration of

the University he was inflexibly just, accurate, and thorough, solicitous to raise the intellectual and moral standard of the institution, and self-sacrificingly kind to students who deserved his kindness. Others may have won more love in their daily intercourse with their pupils; his students left him with a respect, which rose into reverence as they grew into sympathy with his lofty aims, and deepened into affection as they recalled the sincerity and earnestness of his endeavors to do them good. As a teacher, he was distinguished for the clearness of his expositions, the wealth of pertinent illustration which he brought to bear on every point, the enthusiasm he awakened, and the impulse to vigorous and independent thought which he imparted to his pupils.

As a writer, he was compact, clear, and strong. No style could be more free than his from rhetorical artifice. His most glowing discourses exhibit no outbreaks of sentiment or emotion, but have a sustained force and fervor which commands undivided attention.

In the private relations of life, Dr. Wayland was upright and faithful, unselfish and generous. As a citizen, he was public-spirited and philanthropic. No one could have been more loved, honored, and confided in than he was throughout the community in which the greater part of his life was passed.

The Right Rev. ALONZO POTTER was born in Beekman (now La Grange), New York, July 10, 1800. He entered Union College in 1814, was graduated in 1818, became Tutor in the following year, and two years later, at the age of twenty-one, he was chosen Professor of Mathematics and Natural Philosophy. Having meanwhile taken orders in the Episcopal Church, he accepted in 1826 the rectorship of St. Paul's Church in Boston, where in a ministry of but five years he won the enduring respect and affection of members of every Christian communion, and held a place second to none of his contemporaries among the clergy as a man of learning and ability, as an efficient and successful preacher, and as a devoted and faithful minister. In 1831 he was recalled to Union College as Professor of Moral Philosophy, to which office was shortly added that of Vice-President. In this latter capacity he had on his hands the principal portion of the interior discipline of the college, — financial engagements and the external affairs of the institution occupying the greater part of Dr. Nott's time. While here he continued in the frequent exercise of his profession, and was regarded as one of the pillars of his Church; so that, in the vacancy of the important Bishopric of Pennsylvania, he was chosen to that

office not only by the vote of the electing body, but equally by the approving suffrages of a widely extended public. He was consecrated as Bishop in 1845. He found his post of service as arduous as it was honorable, and for the first twelve years he performed an incredible amount of labor, both in the visitation of a diocese larger than some important kingdoms of the Old World, and in the preparation of sermons, charges, and other official papers, which continued to bear the marks of fresh, strong thought, and to betoken a mind no less industrious in his now crowded and care-cumbered arena than it had been during the quiet of his academic life. But his overtasked brain at length yielded to a stroke of paralysis in 1857. In 1858 he was relieved of a portion of his official duty by the appointment of an assistant bishop. A few months spent in foreign travel restored him to his work, which he was permitted for a few years longer to pursue with little less than his former vigor. But threatening symptoms again supervened, and by advice of his physician he sought relief by a sea-voyage. He took passage for California in a new steamer belonging to the Pacific Mail Company. From Panama he went to Aspinwall to consecrate a chapel. He was detained there over night, and was subjected to malarious influences, which, after he had embarked on the Pacific, issued in malignant fever. On arriving in the harbor of San Francisco he appeared so far convalescent that arrangements were made for his removal on shore. But a relapse ensued, and he died on shipboard, July 4, 1865.

Bishop Potter published, in addition to numerous pamphlets, a treatise on Political Economy for college use, and several other educational works. He was also the author of the first part of "The School and Schoolmaster," a work prepared by him in connection with Mr. George B. Emerson, and placed in every school-house in Massachusetts and New York.

He was an easy, graceful writer. His imagination, evidently vivid, else his words would not have been so transparent, was employed, not in imagery and ornament, but in the presentment of the objects of thought in their true aspects and relations. Never forsaking, postponing, or slighting the duties incumbent on him by virtue of his station, he was always ready to renounce needed rest or leisure in aid of any worthy cause. His services in behalf of the reformed system of common-school education will be beneficently felt long after they have ceased to be remembered.

In private life he was greatly and worthily beloved. Simplicity and sweetness of spirit and mien, tender thoughtfulness for all around him, with all the amenities and graces that go to constitute the Christian gentleman, marked his daily intercourse, won for him troops of friends, and made it hardly possible that he should have an enemy. In his ecclesiastical relations, while loyal to his own Church, and steadfast in his own convictions of truth and right, he lived in mutual esteem and in the interchange of the kindest Christian offices with good men of every denomination.

COLONEL JAMES DUNCAN GRAHAM, of the U. S. Engineers, was born in Virginia. He entered the United States service as Third Lieutenant of Artillery in the year 1817, was appointed a Captain (by brevet) of Topographical Engineers, January 15, 1829, and rose in this corps by the regular course of seniority to the grade of Lieutenant-Colonel; he was brevetted to this grade January 1, 1847, and obtained his actual commission for it, August 6, 1861. Upon the consolidation of the two corps of Engineers and Topographical Engineers, he received a colonel's commission in the combined corps, which he held at the time of his decease, December 28, 1865.

His scientific labors have been for the most part either directly in the line of military engineering duty, or incidentally connected therewith. Of the former class were his labors upon the Northeastern Boundary and Mexican Boundary Commissions, and upon the survey of the Northern and Northwestern Lakes. He was very assiduous as an instructor in practical astronomy to the younger officers under his command, and was himself an admirable observer. The latitudes and longitudes of the points upon our Northeastern Boundary were determined by him and his subordinates with great precision. He often availed himself of his travels in this line of duty to contribute largely to the advancement of American geography, and his determinations are always very accurate, though often made with apparently inadequate means. Thus a large number of the most accurate positions yet determined of our Lake ports, are due to his sextant observations made within ten years, while he was in charge of the Lake Harbor improvements.

Colonel Graham was an admirable example of a military astronomer, — a class to whom in every country a great deal of the progress of astronomical geography is due.

From the roll of our Foreign Honorary members it becomes our sad duty to withdraw the names of Encke, Lubbock, Sir William Rowan

Hamilton, Whewell, Sir William Hooker, Lindley, Admirals Smyth and Duperrey, all distinguished in the walks of science, and most of them illustrious for their original investigations.

JOHN FRANCIS ENCKE was born in Hamburg, September 23, 1791. His father was a deacon in the Jacobi Church. After completing the course of study of the college or gymnasium in Hamburg, he entered the University of Göttingen in October, 1811, where he remained a student under the instructions of Gauss until the spring of 1813, when he entered the army and marched to Hamburg for the rescue of his country from the domination of the French. After the fall of Hamburg he entered the Hanseatic Legion, and served in the horse artillery until June, 1814. In the autumn of this year he returned to Göttingen and resumed his studies. In 1815 he entered the Prussian service for a short time. After the battle of Waterloo and the restoration of peace he completed his studies under Gauss, and was appointed assistant to Lindenau, in the Observatory of Lemburg, in 1816. He received the title of Professor in 1818, of Vice-Director in 1820, and in 1822 he succeeded Lindenau as Director of the Observatory. In 1825, at the recommendation of Bessel, he was appointed Director of the Observatory at Berlin. He died in Spandau, of disease of the brain, on the 26th of August, 1865, having been relieved from all astronomical work, in consequence of the approach of the disease, from the beginning of 1864 up to the time of his death.

It would be impossible within the limits of such a notice as this to give anything like a detailed account of the services to science of this great astronomer. The bare enumeration of the titles of his many valuable papers would exceed them, and in fact such a notice of his work is not necessary here. The name of no one of the great astronomers of this century is more familiarly known in America than that of Encke, and his published labors have instructed astronomers in all parts of the world. They may be found, for the beginning of his career, in Lach's Correspondence and Lindenau's *Zeitschrift*, and, later, in the supplement to the Berlin *Jahrbuch*, in the Memoirs and Monthly Reports of the Berlin Academy, in the *Astronomische Nachrichten*, and in the volumes of the Berlin Observations.

It may be that Encke has contributed most to the advancement of his favorite science in Europe by the improvements that he introduced into the Berlin Ephemeris, by the character that he impressed on the Berlin Observatory, and by the pupils that he trained during his forty

years' professorship, who have had a large share in aiding the progress of astronomical knowledge. But astronomy in America is most indebted to him for his papers on the Method of Least Squares, and on the Computations of Special Perturbations. The Method of Least Squares, which originated with Legendre and Gauss, was systematically and successfully applied in Encke's earlier investigations upon the motions of the comet which bears his name, and its inestimable practical value illustrated. His papers on the subject, together with the numerous examples which his applications of it furnish, have placed the method easily within reach of the student, and have enabled many a young mathematician, with no other aid, to proceed with confidence and success in computations which could never have been undertaken otherwise without the instructions of a master. So admirable have been his arrangements of these difficult computations, and so explicit his instructions upon every part of the work, that it may be truly said that the greater part of what has been done since by astronomers anywhere in the correction of orbits of comets or minor planets, or the computation of their perturbations, has been done under Encke's direction. It was in such work as this that he excelled; and while he showed no want of ability to take the highest rank in any department of theoretical or practical astronomy, it was as a computist that he was pre-eminent.

SIR JOHN WILLIAM LUBBOCK, Baronet, was born March 26, 1803; educated first at Westminster School, then at Trinity College, Cambridge, taking the Bachelor's degree in 1825, the Master's in 1833; was admitted to the Royal Society (of which he was a Vice-President at the time of his death) in 1829; married in 1833; succeeded to the baronetcy in 1840, on the death of his father, the eminent banker, Sir John Lubbock; and transmitted the title to his eldest son, John, — also of scientific eminence, — by his death at High Elms, Kent, June 20, 1865. Between the time of reading his memoir on the determination of the orbits of comets before the Royal Society in 1829 and the year 1849, he contributed more than forty papers to the Transactions of that body and of other learned societies, on the moon and the tides, the perturbations of planets, the orbits of comets, and other matters of astronomy, terrestrial physics, and pure mathematics.

He holds a conspicuous place among those who have contributed to the perfection of the Lunar Theory. His claims are thus stated by himself in the Transactions of the Royal Astronomical Society for 1860: "I am confident that a just posterity will give to us [that is, to Plana,

Pontécoulant, and Lubbock, who, in 1846, furnished the means of constructing tables of the moon without any empirical hypothesis] the credit of first bringing the Lunar Tables within the limits of error of observation, and thereby of bringing to perfection the solution of the problem of finding the longitude at sea by means of lunar observations." Of the excellence of the work here referred to, Sir J. Lubbock appears to have first been made aware by its near agreement with the formula from which the American Tables of the Moon were constructed, and the very close agreement of these tables with observation.

SIR WILLIAM ROWAN HAMILTON, Astronomer Royal for Ireland, son of Archibald Hamilton, Esq., of Dublin, was born in that city, August 5, 1805, and early put under the tuition of his uncle, Rev. James Hamilton, curate of Trim, by whom his remarkable taste and ability for learning languages were so much fostered, that by the age of fourteen he had made great progress in thirteen languages besides his own, in which he also showed the finest rhetorical powers. His taste for mathematics (perhaps derived from his mother, whose maiden name was Sarah Hutton, and who was of the family distinguished in that science) was so strong that it led him, with very little aid from tutors, to rapid self-directed progress. He began geometry at the age of ten, algebra at twelve; at seventeen he had thoroughly mastered the calculus, and at nineteen, while an undergraduate at Dublin, laid the foundations of a new science; at the age of twenty-two, not yet having taken his Bachelor's degree, he was made Andrews Professor of Astronomy in his own University; not because he was an astronomer, nor because his *Alma Mater* wished him to become an astronomer; but because she wisely wished to secure the residence of a son of such rare genius and virtue. His mathematical writings consist of a single volume, *Lectures on Quaternions*, published in 1853, and of numerous contributions to the *Transactions of the Royal Irish Academy*, from 1828 to 1847; to the *Philosophical Magazine*, from 1831 to 1861; and to the first four volumes of the *Cambridge and Dublin Mathematical Journal*. These contributions all relate to pure Mathematics or to Analytical Mechanics, — his wealth of metaphysical, poetical, and philological learning and ability never luring him from his chosen walk, — and all show a master's hand.

His papers on Optics were the first example of extended investigations into the phenomena of motion abstracted from the idea of force; and his prediction of conical refraction, having been verified by subse-

quent observation, has in it the same sort of moral sublimity as that which attaches to the discovery of Neptune in consequence of Le Verrier's predictions. Led by a remarkable expression of Kant to endeavor to develop the science of pure Time, Hamilton succeeded, first in giving a new and better interpretation to algebra, and afterwards in inventing, or as he modestly says discovering, a quaternion notation for Space, having a generality that enables one to express in a brief equation truths that previously required a volume. We live too near the time of its origin to comprehend its value ; but a notation capable of such condensation of expression should be an engine of incalculable power. This Science of Quaternions, first given to the Royal Irish Academy in November, 1843, and published in the *Philosophical Magazine* in July, 1844, has four kinds of symbols, one for real quantities, and three for imaginary.

In private life he was admired and loved ; the highly poetical imagination which was at the foundation of his geometrical ability showed itself constantly in his conversation. His impulsive, ardent temperament never led him into controversy, but his regard for the rights, the opinions, and wishes of other persons was continually manifesting itself in thoughtful courtesies and kindnesses. He made pure mathematics his study, and metaphysics a favorite relaxation, reaching heights of speculation in both to which few attain ; but he held with devout simplicity to that Christian faith which was the guide and joy of his life. He died September 2, 1865.

The Rev. WILLIAM WHEWELL, D. D., was born at Lancaster, May 24, 1794, and died at the Lodge, Trinity College, Cambridge, March 5, 1866, in consequence of being thrown from his horse some days before. He took the Bachelor's degree at Trinity College in 1816, obtained a Fellowship, was a Tutor for some years, and was appointed to a Professorship of Mineralogy in 1828, holding that office four years, when he resigned. In 1838 he was made Professor of Moral Theology, and resigned the chair in 1855, when he became Vice-Chancellor of the University. He was also appointed Master of Trinity College in 1841, and held that high position at the time of his death.

Dr. Whewell was a man of great and varied learning, handling with ability the most diverse subjects of inquiry ; beginning with Reports to the British Association on the Tides, and on the Mathematical Theories of Heat, Magnetism, and Electricity, and with the *Bridgewater Treatise on Astronomy*, and text-books on *Elementary Mechanics* ;

then proceeding to a History of the Inductive Sciences, and a Philosophy of the same, afterward called a History of Scientific Ideas ; passing thence to the editing of Mackintosh's Introduction to Ethical Philosophy, to volumes of his own upon Morals, and to translations from Plato's Ethical Dialogues ; then to the editing of Richard Jones on Political Economy, and a volume of his own upon that subject, and finally amusing himself with Notes on the Architecture of Churches in France and Germany, writing English Hexameters, and an anonymous book on the Plurality of Worlds.

Dr. Whewell undoubtedly exercised a large influence on public education in England, especially in commending the physical sciences, and giving them an honorable place in the University at Cambridge. His style was singularly clear, and his views of every subject comprehensive, if not marked by peculiar originality. His attachment to the College in which he was educated was earnest, and showed itself not only in his pertinacious resistance of every claim or pretension on the part of others which he thought inconsistent with her dignity, even when claiming rights in behalf of the Crown ; but also by his munificent gift of a large hostel for her students, and of an endowment for its support and enlargement.

The names of HOOKER and LINDLEY, which stood side by side in our botanical section, are naturally associated as those of the two most eminent botanists in Great Britain, — also by the parallel course, and near coincidence in the close, of their lives. Born in the same neighborhood, in youth receiving their education at the same school, and early drawn together by similar predilections, they both devoted themselves with singular energy and perseverance to their chosen pursuit ; exerted for many years, although in somewhat different ways, a paramount influence upon the advancement of botanical science ; and died near together in place and time, — the elder at Kew, on the 12th of August last, at the age of eighty-one years ; the younger at Turnham Green, on the first of the ensuing November, at the age of sixty-six years. For a long time they were the two most distinguished teachers in Great Britain, one at a northern, the other at the metropolitan University. They severally conducted two of the principal serial works by which botany contributes to floriculture ; and they developed into highest usefulness those two great establishments, the Royal Gardens at Kew, and the Horticultural Society of London. Both wrote and published largely ; — Hooker only upon descriptive botany, in which he

greatly excelled, while Lindley traversed a wider field, and grappled with abstruser problems in every department of the science, always with confidence and facility, but not with unvarying success.

WILLIAM JACKSON HOOKER was born on the 6th of July, 1785, at Norwich, where resided Sir James Edward Smith, the possessor of the Linnæan herbarium, and a leading botanist of the time. It was he, probably, who directed young Hooker's attention to botany; but his fondness for natural history, especially for ornithology, was already developed in the school-boy. Going up to London as a young man, he made the acquaintance of Sir Joseph Banks and of the able botanists he had drawn around him; in the year 1809 he went to Iceland; on his return from a successful exploration, the vessel in which he had embarked with all his collections, notes, and drawings, was fired and everything was lost, save the lives of the crew and passengers. In 1811 he published his earliest work, the "Journal of a Tour in Iceland"; before 1820, he had brought out his monograph of the *British Jungermanniæ*, and the *Muscologia Britannica*, both illustrated by his own pencil. From 1820 to 1840 he filled, with distinguished success, the chair of the Regius Professorship of Botany at the University of Glasgow; and he brought out, during these twenty most active years, the greater part of his extensive writings upon Phænogamous Botany, among which we should especially notice his *Flora Boreali-Americana*, or Botany of British America, founded on the collections of the Arctic explorers, and of his correspondents in Canada and Western North America, including what is now Oregon and Washington Territory.

In the year 1841, when it was determined that the gardens and plant-houses at Kew, then crown domain, should be converted into a great national establishment, Doctor, now Sir William Hooker, was naturally looked to as the proper person to take charge of it. He accepted the trust, and, generously supported by the government under every administration, he devoted his energies and rare talents for organization to the creation and development of the conservatories, museums, gardens, and plantations, stocked with the vegetable productions of all lands, which (including also the vast and unrivalled herbarium that he had himself amassed) have, within the short space of a quarter of a century, made Kew the botanical metropolis of the world.

All this he did without much abatement of his activity in botanical investigation and authorship; although of late years restricting his proper studies very much to the Ferns. His most comprehensive work

upon this great order, the *Species Filicum*, was completed only two years ago; when the indefatigable author, upon the verge of fourscore, immediately and courageously entered upon the preparation of a condensed Synopsis of all known Ferns, and had made considerable progress in the undertaking, when the attack of a prevalent epidemic suddenly closed his long, honored, and most useful life.

Sir William Hooker was doubtless the most prolific botanist of the age, even exceeding Linnæus in this respect, — having published about seventy volumes (including the journals he edited) and over four thousand plates, all the earlier ones from his own drawings, and having described as many new species as there were of plants known in the time of Linnæus. This is not so extraordinary when we consider that his term of authorship covers fifty-five years, no part of which was unproductive, and that his opportunities were unusually great, through his numerous pupils and distant correspondents, — inspired by his zeal and attached by his generosity and winning ways, — who sent him the vegetable productions of all lands; as also by his public spirit and influence with men in office, through which governmental facilities were secured, and botanists appointed when possible to all exploring expeditions and voyages. His opportunities, therefore, were of his own making, and were improved by a sustained industry and single devotion to his pursuit, that have never been surpassed. Like Linnæus also, but unlike most naturalists, so well had he calculated his powers and directed his aims, that he left no half-finished works behind him, but completed everything he undertook, excepting that upon which he had just entered when he was called to his rest. Mere amount of publication in descriptive botany may be of small or equivocal merit. Of Hooker it is to be remarked, not only that he did a vast amount of botanical work, but that he did it surpassingly well.

JOHN LINDLEY was born at Catton, near Norwich, on the 5th of February, 1799, and was educated at the grammar school of that town. His father was a nurseryman of some consideration, and the author of a well-known work upon the orchard and kitchen garden. Young Lindley's bent for natural history was congenital, and his special vocation, as the practical illustrator and introducer of the natural system into common use wherever the English language is spoken, was early indicated. In one of his first lectures, a sketch of which has just been printed from his manuscript, he gave a lively account of his early endeavors after botanical knowledge, and the small satisfaction that

rewarded them; of the kind notice that was taken of him by Sir James Edward Smith, the head of the prevailing school, and the maintainer of the full sufficiency of the Linnæan artificial system, who, by cautioning the young man not to be led astray by new and false lights, first awoke a curiosity which began to be gratified when he soon afterwards visited his friend Hooker, and was by him introduced to Jussieu's *Genera Plantarum*, and Richard's *Analyse du Fruit*. It was then, as he says, that his botanical life commenced, and a translation from the French of Richard which he made on the spot, at one sitting of three days and two nights, was the first of his numerous publications. In 1818 or 1819, he went up to London, and, introduced by Hooker to Sir Joseph Banks, was employed by him for a time as assistant librarian. Sir Joseph introduced Lindley to Mr. Cattley, a wealthy merchant and amateur cultivator, who wanted scientific assistance in illustrating and publishing some new plants of his collection. In this service, Lindley in 1821 brought out the fine folio volume entitled *Collectanea Botanica*. He dedicated it to Mr. Sabine, the Honorary Secretary of the Horticultural Society of London, under whom the next year he became Assistant Secretary, just when the famous garden at Chiswick was to be laid out. In 1826, as sole Assistant Secretary, and afterwards as Vice Secretary, Lindley became, and long remained the practical head of this important establishment, which, under his wise and energetic administration, has rendered vast service to horticulture and to botany. From the year 1829 to 1861 he was Professor of Botany in the London University, and at the same time lecturer at the Apothecaries' Garden at Chelsea. In 1830, he published the first edition of his Introduction to the Natural System of Botany, revised and amplified it in 1836, and in 1846 he expanded it into that encyclopædia of botanical knowledge, "The Vegetable Kingdom, or the Structure, Classification, and Uses of Plants, illustrated upon the Natural System." The several works upon structural and physiological botany, which accompanied the systematic ones already mentioned, those upon medical and economical botany, his Theory and Practice of Horticulture, and the like, need not here be enumerated, being among the best known and most widely used botanical books of the age. The same may be said of Loudon's Encyclopædia of Plants, the scientific part of which was by Lindley, and of the Botanical Register, the rival of the Botanical Magazine, which he edited for about twenty years. He originated, in 1841, the Gardeners' Chronicle, and conducted it

until recently, when his health gave way. Of his various labors and writings relating to horticulture, it has been said to be mainly due to them "that this branch of knowledge has risen from the condition of an empirical art to that of a developed science." At least it may be asserted that scientific horticulture in Great Britain owes more to Lindley than to any other person, except, perhaps, to his predecessor, Knight. In systematic botany his most considerable and profound works related to orchideous plants, upon which he has long been the paramount authority. Physiologist, morphologist, and systematic botanist, he displayed equal genius in all these departments of the science; and, if he worked too rapidly to do full justice to his great powers in any one of them, he must be allowed to have contributed efficiently to the advancement of them all.

His distinguished scientific career was cut short in the year 1862, by an affection of the brain, brought on by protracted and severe overwork; and he died of apoplexy on the first of November last, leaving a void not easy to be filled.

LOUIS ISIDORE DUPERRÉY, Admiral in the French Navy, was born in Paris, October 22, 1786. He entered the Navy in 1802, and was for a long time in active service. In 1811 he executed a hydrographic survey of the coast of Tuscany. In the French expedition of 1817, for determining the figure of the globe and the elements of terrestrial magnetism and other purposes, he was entrusted with the hydrographical operations. Soon after this, in 1822, he was placed in command of a new expedition around the world for scientific discovery. An account of this voyage was published in Paris, in six quarto volumes, in the years 1828-32. His observations on the invariable pendulum, and on the inclination and declination of the magnetic needle, made in this voyage, were published in 1827. He also published papers on the configuration of the magnetic equator in 1830; on the direction and intensity of terrestrial magnetism in 1837, and in 1841, a paper upon the geographical positions of the magnetic poles, and especially on the position of the southern magnetic pole. He died in Paris, after a long illness, on the 25th of August, 1865.

Twenty-two members have been elected into the Academy during the year. Nine of these are Resident Fellows, two of the first class, two of the second, and five of the third class.

Nine are on the Associate or Non-resident list, two in the first, two in the second, and five in the third class.

Four are Foreign Honorary Members, viz.: J. Victor Poncelet of

Paris, in the Fourth Section of the First Class, to fill the vacancy caused by the death of Wilhelm Struve of the Astronomical Section; Arthur Cayley of London, in the Mathematical Section of Class I., in the place of the late Sir Wm. Rowan Hamilton; M. Delauney of Paris, in place of the late Sir John Lubbock of the same Class and Section; and Dr. Joseph Dalton Hooker, of Kew, in place of his father, the late Sir William Jackson Hooker, of the Second Class and the Botanical Section.

Professor Lovering, as Chairman of the Committee of Publication, presented a report accounting for the expenditures in printing under the appropriations of the past year. The report was accepted.

Professor Cooke presented the report of the Library Committee; which was accepted.

Mr. Paine reported that he had received from the representatives of the late Jonathan P. Hall the thermometer belonging to the Academy, and the records of Mr. Hall's observations.

Mr. Paine was authorized to obtain the barometer of the Academy used by Mr. Hall, and to get it repaired.

Remarks were made by the President and by the Librarian on the aid rendered by the Smithsonian Institution in effecting the exchanges of the Academy; and on the motion of the Librarian it was

Voted, That the thanks of the Academy be presented to the Smithsonian Institution for the generous and efficient aid which it has rendered through its system of foreign exchanges and distribution of publications, by which the Academy has greatly profited.

The President announced from the Finance Committee that the unexpended balances of past appropriations were not included in the appropriations recommended for the current year. In accordance with information from Professor Eliot concerning a sum of money raised by subscription for the general expenses of the Academy, the recommendations of the Finance Committee were amended, and the following appropriations passed:—

For General Expenses	\$ 1,400
For the Library	1,000
For Publication	1,000

The election resulted in the choice of the following officers for the ensuing year :—

ASA GRAY, *President*.

GEORGE T. BIGELOW, *Vice-President*.

WILLIAM B. ROGERS, *Corresponding Secretary*.

CHAUNCEY WRIGHT, *Recording Secretary*.

JOHN C. LEE, *Treasurer*.

FRANK H. STORER, *Librarian*.

Council.

THOMAS HILL,	} of Class I.
JOSEPH LOVERING,	
JOHN B. HENCK,	
AUGUSTUS A. GOULD,	} of Class II.
LOUIS AGASSIZ,	
JEFFRIES WYMAN,	
ROBERT C. WINTHROP,	} of Class III.
GEORGE E. ELLIS,	
ANDREW P. PEABODY,	

Rumford Committee.

JOSEPH LOVERING,	JOSEPH WINLOCK,
MORRILL WYMAN,	WOLCOTT GIBBS,
WILLIAM B. ROGERS,	FRANK H. STORER,
JOSIAH P. COOKE.	

Committee of Finance.

ASA GRAY,	} <i>ex officio</i> , by statute.
JOHN C. LEE,	
THOMAS T. BOUVÉ, by election.	

The other Standing Committees were appointed on the nomination of the President, as follows :—

Committee of Publication.

JOSEPH LOVERING, JEFFRIES WYMAN,
CHARLES W. ELIOT.

Committee on the Library.

JOHN B. HENCK, CHARLES PICKERING,
JOHN BACON.

Committee to audit the Treasurer's Accounts.

CHARLES E. WARE, CHARLES J. SPRAGUE.

The following gentlemen were elected members of the Academy : —

Nathaniel Thayer of Boston, to be Resident Fellow in Class III. Section 3.

Professor William P. Atkinson of Cambridge, to be Resident Fellow in Class III. Section 2.

Hon. Horace Gray, Jr. of Boston, to be Resident Fellow in Class III. Section 1.

Stephen P. Ruggles of Boston, to be Resident Fellow in Class I. Section 4.

Professor Noah Porter of Yale College, to be Associate Fellow in Class III. Section 1.

Chief Justice Ira Perley of New Hampshire, to be Associate Fellow in Class III. Section I.

Dr. A. W. Chapman of Appalachicola, to be Associate Fellow in Class II. Section 2.

George Bentham of London, to be Foreign Honorary Member in Class II. Section 2, in place of the late Professor Lindley.

Hervè Auguste Etienne Alban Faye of Paris, to be Foreign Honorary Member in Class I. Section 2, in place of the late M. Encke.

William John Macquorn Rankine to be Foreign Honorary Member, in Class I. Section 4, in place of the late Admiral Smyth.